folio
UNIVERSITY OF ALBERTA

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Pilot program launched to help student soldiers become leaders

News Staff

A renewed partnership between the University of Alberta, the Canadian Armed Forces and the Department of National Defence will see a new joint pilot program take place at the U of A starting this fall.

Richard Siemens

The Canadian Military Leadership Pilot Initiative renews a tradition between the U of A and the Canadian Armed Forces that dates back to the First World War.

On July 8, the Honourable Peter MacKay, minister of national defence, announced the establishment of the Civil Military Leadership Pilot Initiative, a program co-directed by the University of Alberta and the Canadian Armed Forces. The four-year pilot will serve as a testing model for similar program development at other Canadian universities.

"This new joint pilot program is an example of outstanding collaboration between the Department of National Defence, the Canadian Armed Forces and the University of Alberta," said MacKay. "It renews a partnership between the university and the Canadian military dating back to the First World War. This keeps very much with the tradition of the Canadian Officer Training Corps, which was set up on campuses around Canada until 1968."

The leadership program will require students to be enrolled within any program at the University of Alberta and serving concurrently with a local army reserve unit. Students will need to

Continued on page 3

Got milk?

Richard Siemens

A selection of the 150-plus dairy cows at the Dairy Research and Technology Centre housed on the University of Alberta's South Campus step forward for a photo July 5. On average, a cow like no. 1183, better known as Elba, will produce 35 kilograms of milk per day for the 305 days a year that it is milked.

Cyclotron facility revolutionizes medical isotope manufacturing

Bryan Alary

The University of Alberta officially opened a new cyclotron facility that will advance health care for Albertans and Canadians by providing a reliable supply of medical isotopes for diagnostic imaging.

The Medical Isotope and Cyclotron Facility, which opened July 2 at the U of A's south campus, houses a $28-million cyclotron research and production facility that will produce clinical-quality technetium-99m, an important isotope used for 80 per cent of nuclear medicine diagnostic procedures.

Once fully operational, the facility will revolutionize how medical isotopes are manufactured for routine clinical use—establishing the U of A as a centre of excellence in medical cyclotron research.

"The University of Alberta's Medical Isotope and Cyclotron Facility will create a steady supply of medical isotopes used to help patients with cancer, cardiac, neurological and other diseases across Alberta and Canada," said Sandy McEwan, lead researcher, professor and chair of the Department of Oncology.

"These isotopes are not only safe and reliable for patients, they are also cost-effective to produce, and this research and academic facility will provide a model for similar cyclotron centres nationally and internationally."

Richard Siemens

Sandy McEwan shows Minister Rona Ambrose how to use a pair of remote-controlled robotic arms in the Medical Isotope and Cyclotron Facility.

The Medical Isotope and Cyclotron Facility was made possible through $10.9 million in funding from the Government of Canada, including $7 million from Natural Resources Canada and $3 million from Western Economic Diversification Canada.

"I am so pleased to celebrate the grand opening of the University of Alberta's new Medical Isotope and Cyclotron Facility," said Rona Ambrose, minister of public works and government services and minister for the status of women.

"This new facility will further create new opportunities for world-class researchers here in Alberta and high-quality jobs through innovation."

The Government of Alberta contributed $5.4 million for the cyclotron project. That is over and above $18.4 million provided by Alberta Health Services to create a new central radiopharmacy, also housed in the centre.

McEwan, also associate director of research at the Cross Cancer Institute in Edmonton, said the cyclotron is currently being commissioned but should be licensed and fully operational within a few months.

It's expected the facility will be in full production in the second quarter of 2014, helping ensure the country has a reliable supply of medical isotopes after the Chalk River reactor closes in 2016.

"Our facility will give Canadians the confidence that there will be a safe, secure supply of medical isotopes for the next 20 years," he said.

The U of A facility utilized technology developed by Advanced Cyclotron Systems Inc.

folio

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UNIVERSITY OF ALBERTA

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'Dean of university hockey' named to Order of Canada

News Staff

Clare Drake, legendary University of Alberta Golden Bears men's hockey coach and the most successful coach in the history of Canadian university hockey, has been appointed as a member of the Order of Canada.

> Throughout his career, Drake has provided enlightened leadership to hockey coaching development, and his writing contributed substantially to the theoretical background of the renowned Canadian Coaching Certification Program.

Drake, famously known as the dean of intercollegiate hockey coaches, led the Golden Bears hockey team to six national championships and 697 wins between 1958 and 1989. He was named Canadian Inter-university Athletic Union Coach of the Year twice and Canada West Coach of the Year four times. On June 1, 1990, the U of A dedicated Varsity Arena to him and renamed it the Clare Drake Arena.

Drake, who won a record 17 Canada West conference titles, also coached football for a short time in the 1960s, leading both the hockey and football teams to national titles during the 1967-68 academic year.

A co-coach of Canada's 1980 Olympic hockey team, he coached gold-medal teams at the World Student Games and at the Spengler Cup tournament. Drake took a leave of absence from the university in 1975 and 1976 to take the reins as head coach of the Edmonton Oilers, then part of the World Hockey Association. In 1989–90, Drake served as an assistant coach for the National Hockey League Winnipeg Jets. More recently, he was a technical advisor to the U of A Pandas women's hockey team during the 1997–98 and 1998–99 seasons—the team's first two years in existence—under current head coach Howie Draper. Drake also worked with the Dallas Stars during the 2001 Stanley Cup playoffs.

Throughout his career, Drake has provided enlightened leadership to hockey coaching development, and his writing contributed substantially to the theoretical background of the renowned Canadian Coaching Certification Program. A gifted teacher, he has conducted coaching workshops and hockey clinics around the world.

His numerous coaching honours include the 3M Gordon Juckes Award from Hockey Canada and the Geoff Gowan Award from the Canadian Coaching Association, which is the top honour for any coach in any sport. He is a member of the U of A, UBC, Edmonton, Alberta and Canada Sports Halls of Fame and is an honorary life member of the Alberta Football Coaches Association.

He has also received an honorary doctor of laws degree from the U of A, the school's Distinguished Alumni Award, the Alberta Centennial Medal and the Alberta Order of Excellence.

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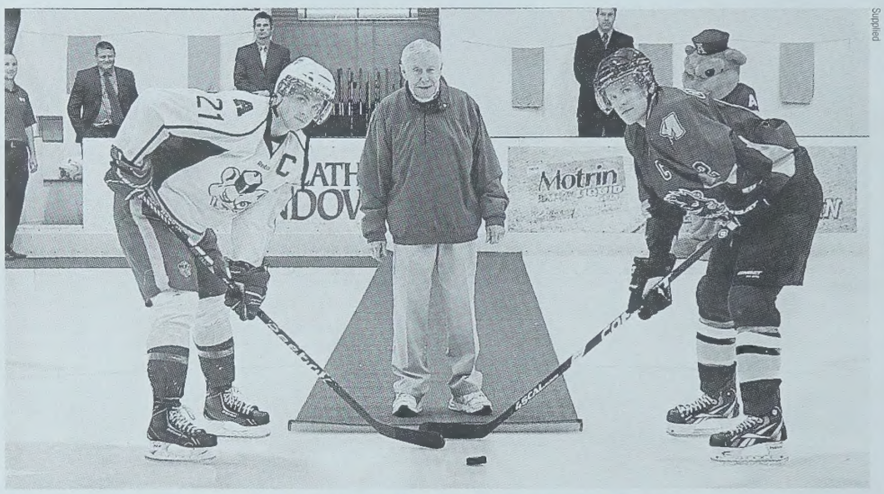

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Clare Drake drops the puck on the opening of the 2012-13 Golden Bears hockey season, which marked 100 years of U of A hockey. (TOP, from left) Barry Richardson with Drake and Jim Coombs. This picture was taken during the 1971-72 season.

Due South actor named officer of Order of Canada

News Staff

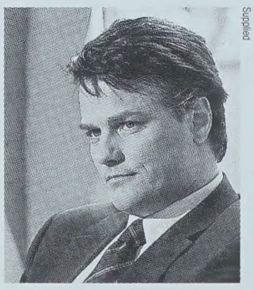
Paul Gross gained fame portraying an officer of the Royal Canadian Mounted Police; now, the University of Alberta alumnus has been named an officer of the Order of Canada for his contributions to Canadian film and television.

> "One really good thing that a school can give you, and the U of A did for me, is put you into parts you would never ordinarily play."
>
> Paul Gross

The Calgary-born actor, writer and director, who earned a bachelor of fine arts degree in drama from the U of A, is among the 74 newest recipients of Canada's highest civilian honour.

After attending the U of A, Gross pursued a career in the theatre, receiving a Dora Award nomination for Best Performance in the title role of *Romeo and Juliet* (1985) and winning the Dora for his role in the 1988 North American premiere of *Observe the Sons of Ulster Marching Towards the Somme.*

"One really good thing that a school can give you, and the U of A did for me, is put you into parts you would never ordinarily play," said Gross in an interview in advance of receiving a Distinguished Alumni Award from the U of A in 2002. "So you get stretched in different directions and have to reach for things that might not come naturally to you."



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Paul Gross

Gross became an icon of Canadian identity after his breakthrough role as Benton Fraser, the Mountie in the TV series *Due South,* brought him wide recognition in both Canada and the United States. He won two Gemini Awards for Best Actor during the show's four-season run from 1994 to 1999, also serving as executive producer and writer for many episodes. He went on to win two more acting Geminis in 2004 and 2007 for his lead role in the TV series *Slings and Arrows.*

In addition to being an award-winning actor, he is a musician, a director and a writer—at one time serving as the playwright-in-residence at the Stratford Festival. In 1982, he won a Clifford E. Lee National Playwriting Award for *The Deer and the Antelope Play.* He has written four plays, all of which have been successfully produced to critical acclaim, and several television and movie screenplays.

In 2002, he made his film directorial debut with *Men With Brooms,* also serving as co-writer, producer and star. Along with its commercial success as one of the highest-grossing English Canadian movies in decades, the curling-themed film was nominated for a Canadian Comedy Award for direction and a Genie Award for its screenplay.

Gross again combined his acting, writing and directing talents for the 2008 film *Passchendaele.* Inspired by his grandfather's experiences in the First World War and his passion for Canadian history, the film won a Directors Guild of Canada Award and a Genie Award for Best Motion Picture.

In 2009, he won the Governor General National Arts Centre Award for Achievement.

He continues to write, direct and act in film, on television and onstage. His most recent credits include starring in the 2010 film *Gunless,* co-starring with Kim Cattrall in the Noel Coward play *Private Lives* in Toronto and Broadway in 2011, and appearing this year in a recurring role in the TV series *Republic of Doyle.*

Curiosity, commitment an organic mixture for chemistry prof *Killam*

Michael Brown


Richard Siemens

Among Dennis Hall's awards are the E.W.R. Steacie Memorial Fellowship in 2008 and the Rutherford Award for Excellence in Undergraduate Teaching in 2009.

When Dennis Hall began his work on boronic acids 15 years ago, he says, he never dreamed that curiosity-based investigation of these compounds would lead to a drug with the potential to be effective in the fight against cancer.

"When I started here in 1997, interest in these compounds was just starting to develop," said Hall, an organoboron chemist in the University of Alberta's famed chemistry department. "Today, almost my entire program centres on this one way or another.

Hall, recently named one of seven 2013-14 Killam Professorship recipients, has made fundamental discoveries that have completely changed how researchers in academia and industry think about and use boronic compounds, including how they can be used as catalysts for chemical reactions, as part of new strategies for green chemistry, and in the creation of new compounds that are currently in preclinical development for treating cancer.

"This is always a good lesson—you take a risk in your research or are interested in the small things that may not enter into the general public, but it can lead to what we have right now."

Hall's research isn't the only facet of his academic life that is renowned. Fellow chemist Todd Lowary—a teaching and research standout in his own right, having received the Killam Professorship last year—describes Hall's commitment to mentoring as "total."

"It is not an exaggeration to say Hall's research accomplishments have been matched by his contributions to education and training students at both the graduate and undergraduate level," said Lowary.

Hall says his role in the undergraduate classroom is simple—advocate for organic chemistry.

"I'm not trying to make all my students like it, but the one thing I try hard at, and succeed at to a certain extent, is to convey the importance of that science and how it has contributed in many ways to our standard of living—plastics, polymers, insecticides, pharmaceutical drugs. We live 25 years longer than our grandparents and it is in large part because of organic chemistry.

"I don't necessarily need everyone to love organic chemistry, but at least they won't go home thinking it's useless."

Along the way to bringing an appreciation of organic chemistry to students, Hall won the Faculty of Science Teaching Award in 2007 and a Rutherford Award for Excellence in Undergraduate Teaching in 2009. In 2008, Hall was named Distinguished University Professor, which is given out in much the same manner as the Killam Professorship, to those who have shown excellence in the areas of teaching, research and service.

Perhaps a victim of his own success, Hall has seen limited duty in the organic chemistry lecture halls in the last few years. In 2008, he received the E.W.R. Steacie Memorial Fellowship, a prestigious research award that relieves professors of their teaching duties for two years. The fellowship and a steady line of graduate assignments have kept him out of the undergraduate classroom, but he keeps his hand in it.

Hall and organic chemistry lab director Hayley Wan are in the midst of developing a virtual lab to be implemented in the coming year to help demystify the organic chemistry lab and, ultimately, make organic chemistry "less scary and more fun."

Hall is also a responsible departmental citizen who stays in touch with the chemistry community at large. He has held roles such as organic chemistry course co-ordinator and chair of the graduate admissions committee, and is the current chair of the organic chemistry division. He also has an exemplary record of service to the Canadian organic chemistry and international organoboron chemistry communities, including a stint in 2009-10 as chair of the Canadian Society for Chemistry's organic division.

"You have to be a team player when you are on faculty," he said. "I believe faculty are primarily motivated by research but being perfectionists, if they are given a job, they will try to do their best. No matter what job I'm given, I always try to do my best."

He adds it would be tough not to be a contributing member of his department in light of the overwhelming support he has felt from his colleagues and department administration through good times and bad.

"I have always liked the quality of my colleagues, and it's great to work with people who are world leaders in their field," said Hall. "Chemistry at the U of A is a great department that has always attracted great people."

Health Sciences Council welcomes new chair and vice-chair

Anne Pratt

The Health Sciences Council is pleased to welcome its new chair Doug Miller, dean of the Faculty of Medicine & Dentistry, and vice-chair Jim Kehrer, dean of the Faculty of Pharmacy and Pharmaceutical Sciences.


Supplied

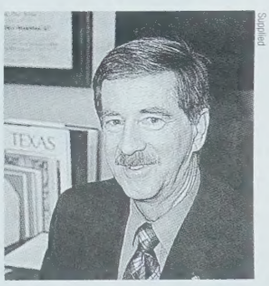
Douglas Miller

Dean Miller has been a member of the council since July 2012; Dean Kehrer joined in 2009. The new chair and vice-chair will lead strategic planning for the council and champion the council's initiatives in fostering collaborative health sciences scholarship at the University of Alberta. Both positions were elected by the council's membership and have one-year, renewable terms.

"It is an honour to have the support of our provost and my decanal colleagues on the council, at a university with such breadth in its health sciences faculties," said Miller. "Together, we are committed to the success of our faculties and learners as valued members of an integrated team of health professionals."

Following an extensive review and planning process, the council has created a new structure. An executive director, accountable to the council and reporting through the chair, will undertake management of the council's activities. This approach allows the deans a closer connection with, and greater responsibility for, the council's new and continued initiatives. The HSC continues to be accountable to the provost and vice-president (academic).

"We have an exciting opportunity here to play a leadership role with both internal and external partners," said Kehrer. "We are well positioned to lead the way in educating health professionals for the 21st century, and in finding innovative ways to work together, particularly in improving interprofessional education opportunities for our students."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James Kehrer

The Health Sciences Council was established at the U of A in the mid-1980s as a formal administrative arrangement through which the health science faculties could strengthen collaboration of equals. The council comprises the deans from faculties and schools with health sciences activities, and has continued academic and administrative responsibility for the Health Sciences Education and Research Commons and the Edmonton Clinic Health Academy.

The council extends special thanks to Lory Laing, interim dean of the School of Public Health, for outstanding leadership as council chair during the past year.

Soldiering on to the U of A

Continued from page 1

complete the formal academic objectives of the institution, as well as meet specific military training requirements to be eligible to receive a certificate marking their participation in the program.

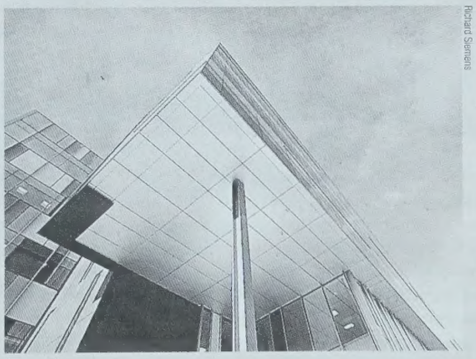
In keeping with a proud tradition of co-operation with the Canadian Armed Forces, the university's leadership in undertaking this pilot program responds to the institution's vision of welcoming change and seizing opportunity. Acting Provost Martin Ferguson-Pell said the U of A's involvement is fundamentally linked to its desire to contribute to the "further development of our society and its institutions."

"We are delighted with the strengthening of links between Canada's military and our institution," said Ferguson-Pell. "The University of Alberta is ideally situated for the development and testing of this program, given our region's strong support for the military and sizable presence of regular and reserve forces, as well as our institution's ongoing commitment to developing outstanding learning and leadership opportunities for our students."

The leadership program, open to both officers and non-commissioned members of the reserves, aims to develop future citizen-leaders by offering significant academic and extracurricular opportunities that will broaden the participants' experience and develop skilled, disciplined leaders. Students must apply to and be accepted by the university and one of the local army reserve units separately.

Are You a Winner?

Congratulations to Susanne Barton who won a a copy of Demeter Goes Skydiving—a book of poetry by Susan McCaslin, courtesy of the U of A Press—as part of Folio's July 19 "Are You a Winner?" contest. Barton identified the object in the last issue's photo as another monolith just east of the CCIS building. Up for grabs this issue is the second-last Butterdome butter dish. To win it, simply identify where the object pictured is located and email your answer to folio@ualberta.ca by noon on Monday, Aug. 12 and you will be entered into the draw.


Richard Siemens

Researchers develop E. coli test for food processing facilities

Raquel Maurier

Medical, agricultural and computer science researchers from the University of Alberta have teamed up to develop a test that will make Canadians feel safer about the meat they put on their tables.

The testing device, which is the size of a large shoebox, can detect pathogenic E. coli while meat is still at food processing facilities. The test is more sensitive at picking up E. coli strains, faster at pinpointing results and less expensive than other tests that are currently used.

Linda Pilarski from the Faculty of Medicine & Dentistry and Lynn McMullen from the Faculty of Agricultural, Life and Environmental Sciences lead the U of A team fine-tuning this E. coli test, which received $500,000 in funding from Genome Alberta and its partners this week. Their U of A colleagues include Michael Gänzle from ALES and Faculty of Science researcher Patrick Pilarski from the Alberta Innovates Centre for Machine Learning. Xianqin Yang will collaborate from the Lacombe Research Centre operated by Agriculture and Agri-Food Canada in central Alberta.

The test will be easy to use on site at food processing facilities. Users will place a sample of meat in a machine and push a button, and results will be available in less than an hour. The device makes millions of copies of the genes in the meat sample to determine whether E. coli is present.

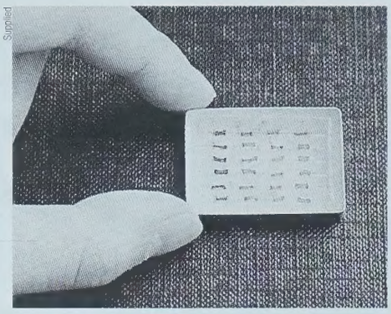
"It's like a molecular Xerox machine," said Linda Pilarski. "It's an exciting application that allows us to test for E. coli toxins and genes that allow bacteria to stick to meat. The current tests used in the food processing industry have issues and sometimes don't detect contaminants as effectively as they should, due to a variety of complicating factors. This relatively new molecular technology will be much more efficient and much less subject to complications."

She added that the team is building on their previous research, which led to the development of the testing device's inner workings and instrumentation. The technology is simple and even does its own quality control.

"What we are doing is building on previously developed technology at the U of A that was designed to detect pathogens of various diseases. And we're building on a whole series of research advances that occurred over years to get to this point."

The U of A-led team demonstrates the power of interdisciplinary collaboration. Linda Pilarski—a researcher in the Department of Oncology, the Department of Medical Microbiology and Immunology, and Laboratory Medicine Pathology—provides expertise in molecular biology and device development. McMullen and Yang are authorities on issues that arise during meat processing. Gänzle is an E. coli expert, and Patrick Pilarski contributes computer science expertise.

"It's a fantastic collaboration that demonstrates research makes an impact in the day-to-day lives of Albertans and Canadians," says Linda Pilarski. "Our work is addressing a very important public health safety issue that will make Canadians feel safer and more secure about the meat they eat and about meat processing facilities. This will also give the province an economic edge because the testing devices will be commercially developed here."



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The E. coli testing device developed by U of A researchers is easy to use and can provide results within an hour.

McMullen is also excited about the collaboration and what the team can do in the future as well.

"With a quick test that can be done in the processing facility without highly trained microbiology technical expertise, industry will have a tool to make rapid decisions on the safety of their products.

"The application of the technology to E. coli is only a starting point. There is potential to expand the technology to other food-borne pathogens. Working with meat and detection of pathogens can be a challenge, and we have a multidisciplinary team that can respond to various challenges encountered working with meat. This multidisciplinary collaboration will be key to our current and future success to help make food at the dinner table safer."

Comments invited on draft memorandum of understanding

Indira Samarasekera

the open door

On June 27, 2013, an initial draft of the University of Alberta's memorandum of understanding with the Ministry of Enterprise and Advanced Education was posted on Colloquy. Over the summer months, we invite all members of the community to review the draft of the MOU, engage with each other on its contents and provide comments, questions and suggestions by Aug. 30.

The document, which will be submitted to the ministry on Oct. 31, should ideally be a full reflection of how we, as an academic community, define our work, roles and responsibilities as an autonomous public university working for the public good. While preparing the first draft, we returned to the many insightful and well-expressed comments and suggestions that were posted or submitted in response to the government's letter of expectation which was received on March 22, 2013. The new draft reflects—and in some places, directly draws on—the language of many of those ideas and suggestions. The next iteration, which will be prepared at the end of the summer for presentation to General Faculties Council Sept. 16, will similarly take into consideration the feedback received over the coming weeks.

As you review the draft MOU, you will find that it consists of three major parts, in addition to a preamble and conclusion. The first two parts focus on Campus Alberta and the four comprehensive academic research institutions, and will be drafted in conjunction with Alberta's other post-secondary institutions. (The current draft contains placeholder text.) The third section is, from our perspective, the most critical with its focus on the University of Alberta. We welcome input on all three sections, but are especially interested in feedback on the U of A section, as well as the preamble.

You can find a copy of the draft on Colloquy (see posting on June 27) or IdeaScale at www.change.ualberta.ca. We encourage the community to use IdeaScale as the main site of engagement because it allows for a freer flow of discussion and presents more options for participation; however, comments, questions and suggestions can be posted on Colloquy as well. You can also email ideas to change@ualberta.ca. In August, roundtable discussions will be organized to allow for face-to-face consultation. More details on these will be forthcoming later this month. Please let us know at change@ualberta.ca if you would be interested in attending.

Thank you in advance for your contributions to the discussion.

Music lessens perceived pain for kids in hospital

Raquel Maurier

Newly published findings by medical researchers at the University of Alberta provide more evidence that music decreases children's perceived sense of pain.

Faculty of Medicine & Dentistry researcher Lisa Hartling led a research team that involved her colleagues from the Department of Pediatrics, as well as fellow researchers from the University of Manitoba and the United States. Their findings were published July 15 in the peer-reviewed journal *JAMA Pediatrics*.

The team conducted a clinical research trial of 42 children between the ages of three and 11 who came to the pediatric emergency department at the Stollery Children's Hospital and needed IVs. Some of the children listened to music while getting an IV; others did not. Researchers measured the children's distress, perceived pain levels and heart rates, as well as satisfaction levels of parents and satisfaction levels of health-care providers who administered the IVs. The trial took place between January 2009 and March 2010.

"We did find a difference in the children's reported pain—the children in the music group had less pain immediately after the procedure," said Hartling. "The finding is clinically important, and it's a simple intervention that can make a big difference. Playing music for kids during painful medical procedures would be an inexpensive and easy-to-use intervention in clinical settings."

The research showed that the children who listened to music reported significantly less pain, some demonstrated significantly less distress, and the children's parents were more satisfied with care.

In the music-listening group, 76 per cent of health-care providers said the IVs were very easy to administer—a markedly higher number than among the non-music group, in which only 38 per cent of health-care providers said the procedure was very easy. Researchers also noticed that the children who had been born prematurely experienced more distress overall.

Hartling and her team hope to continue their research in this area, to see whether music or other distractions can make a big difference for kids undergoing other painful medical procedures. The pain and distress from medical procedures can have "long-lasting negative effects" for children, note the researchers.

Supplied

Lisa Hartling

"There is growing scientific evidence showing that the brain responds to different types of music in very specific ways," said Hartling. "So additional research into how and why music may be a better distraction from pain could help advance this field."

The study noted that previous research has shown that the mood of the music, whether it has lyrics and whether it is familiar to the listener could have an impact on pain perception as well.

This research trial was funded by the Women and Children's Health Research Institute.

Research raises red flags for common treatment of kidney disease

Raquel Maurier

A common clinical practice to prescribe high doses of calcium to patients with chronic kidney disease is being called into question after a medical research review was published in the peer-reviewed journal, *The Lancet*.

The review, conducted by University of Alberta medical researchers and colleagues from the University of Toronto, showed that patients had less heart damage and were more apt to survive if they weren't on high doses of calcium as part of their treatment.

The study's senior author, Ross Tsuyuki from the U of A's Faculty of Medicine & Dentistry, explains the review showed a 22 per cent lower mortality rate and less calcification of heart arteries in chronic kidney disease patients who didn't take high doses of calcium. The research looked at 11 randomized, controlled trials involving more than 4,600 patients, and compared people who took calcium with those who took non-calcium-based treatments such as sevelamer or lanthanum.

Calcium is prescribed to kidney disease patients because their kidneys don't function properly and can't excrete phosphate, which can be hard on the body in high levels. Calcium given in high doses finds the phosphate in the body, clings to or binds to it, then removes it from the body through urine. Sevelamer or lanthanum can also get rid of phosphate in the body, but are much more expensive, costing dollars a day as opposed to pennies a day for calcium.

"What we can say is that the risk of death is lower in those taking non-calcium-based treatments," said Tsuyuki, who works in the Division of Cardiology in the Department of Medicine and the Mazankowski Alberta Heart Institute at the U of A.

"What we don't know is the exact mechanism of this finding and whether it is that calcium is bad, or that sevelamer and lanthanum are good."

Tsuyuki notes that some researchers and physicians have been saying for years that kidney disease patients need to get off calcium. "Now we think our review shows there is much more solid evidence to argue for that change to clinical practice."

Lead U of T researcher Sophie Jamal added, "Doctors commonly prescribe calcium supplements to prevent elevated phosphate levels, which can damage the body, but a growing number of studies have shown calcium supplements may actually increase the risk of heart disease. Our study validates these claims and, for the first time, shows the long-term consequences of taking calcium supplements can be dangerous for patients with kidney disease."

Power athlete credits colleagues for help with the heavy lifting

Michael Brown

staff spotlight

Even when Danielle Savoie has what seems like the weight of the world on her shoulders, she's not alone.

The customer service co-ordinator with the Saville Community Sports Centre may have been the only one lifting the weight en route to four silver medals while representing Canada at the International Powerlifting Federation World Classic Championships in Suzdal, Russia, but she says there were many hands on the bar in spirit.

"The people I work with are fantastic," said Savoie. "It's been so supportive, whether I want to take more courses, take time off to train or go compete. It's a very positive work environment, and I look forward to coming to work every day."

Savoie graduated from the University of Alberta in 2012 with a bachelor of physical education degree and immediately stepped into her role with the Saville Centre.

It wasn't long after she started with the Saville Centre that Savoie made her initial foray into powerlifting.

"I've always had some muscle on me and I love strength sports," said Savoie, who played football and dabbled in bobsleigh before a knee injury during a rugby game sent her looking for a new challenge. "I thought I would try something that was still a strength sport, but a little bit lower impact."

Then, nine months ago, a friend invited her to try out the U of A Powerlifting Club. Having worked as a personal trainer on campus while she completed the final two years of her degree, Savoie was no stranger to a weight room.

"I love feeling strong, and the club members are fantastic," she said. "It's a great way to meet new members who share the same interest and are interested in healthy lifestyles."

A natural, Savoie had been training for less than two months when she signed up for the club's powerlifting meet in December 2012, where she won all three categories—bench press, squat and dead lift—in her weight class.

Savoie then booked her ticket for the world championships just three months later by powering her way to victory at a national competition held in British Columbia this past March.

Once in Russia, Savoie competed in the first-ever classic powerlifting competition, which differentiates itself from the "equipped" category in that classic doesn't allow for any clothing or supports that enhance the lift.

She endured seemingly unending bus rides and a steady diet of pancakes, potatoes and bacon to earn a steady string of silver medals with a bench press of 75 kilograms, a squat of 112.5 kg and a dead lift of 132.5 kg—all of which were good enough for a second-place finish in the overall category.

"It was interesting, and it was a little intimidating—a lot of these women have been competing for many years," she said. "It was great to see that calibre of athleticism.

"I was just so excited to be a part of it."

Supplied

Danielle Savoie competing at the International Powerlifting World Classic Championships in Russia.

U of A research informs U.S. medical guidelines on gestational diabetes

Faculty of Medicine & Dentistry Staff

Medical researchers at the University of Alberta are providing their expertise to the U.S. government to help guide recommendations on gestational diabetes screening.

Lisa Hartling, a researcher in the Faculty of Medicine & Dentistry, recently published her team's work comparing different approaches to screening for gestational diabetes and the impact of treatment. The findings were presented to the U.S. National Institutes of Health and the U.S. Preventive Services Task Force, which would like to see standardized screening and diagnosis of gestational diabetes across the United States. The findings were also published earlier this year in the peer-reviewed journal *Annals of Internal Medicine*.

The research was funded by the U.S. government via the Agency for Healthcare Research and Quality to provide evidence for recommendations about how to best screen for and diagnose gestational diabetes. The agencies involved also wanted to identify the harms and benefits of treating women for gestational diabetes. There are 11 centres in North America that do this type of evidence-based research for the Agency for Healthcare Research and Quality. Hartling's team is the only such group in Canada and was chosen because of their expertise and knowledge in this area.

> "In medical research, you ideally want to find the tests that are most effective at both pinpointing those who have a condition and identifying those who don't have the condition."
>
> Lisa Hartling

Hartling's team reported on the variations in screening recommendations by different organizations around the world. For example, some recommend that pregnant women undergo two tests. If the first test registers high levels of glucose, then patients go for a second, more definitive test. Other organizations recommend pregnant women receive only one test. Some organizations screen all pregnant women for gestational diabetes, whereas others only screen women who exhibit risk factors.

The team found that a fasting blood test was very effective at ruling women out for gestational diabetes. Another test, in which women drink a sugary drink before a blood test, was better at pinpointing those who had gestational diabetes. This sugary-drink test resulted in fewer false positives, although many still occur.

"In medical research, you ideally want to find the tests that are most effective at both pinpointing those who have a condition and identifying those who don't have the condition," Hartling explains.

"There is no gold-standard test for this condition, which is why so many organizations have come up with different approaches on how to test for gestational diabetes. The National Institutes of Health would like to see some of these controversies resolved. They aim to develop a consensus statement to guide practice in the United States."

The potential downsides identified to treating women for gestational diabetes—through glucose monitoring, modified diets and insulin if needed—were increased costs and the possibility of more apprehension over the "label" of gestational diabetes. For example, some studies show that care for women with gestational diabetes may be more precautionary, such as inducing labour and admitting babies to neonatal intensive care.

Hartling and her team also examined whether mothers and their babies experienced health improvements when gestational diabetes was treated. They found that the benefits were many, including fewer delivery problems, more healthy-sized babies and less incidence of high blood pressure for mothers.

Hartling's team members included colleagues from the Department of Pediatrics and a fellow researcher from the University of Calgary.

Nursing program tackles major health challenges in Ghana

Bryan Alary

In his native Ghana, Yakubu Salifu says, tuberculosis isn't just a lethal infectious disease, it carries a social stigma bearing the name "ghost cough"—as in the afflicted are among the walking dead.

Overcoming this stigma among the general public and health-care workers has the potential to improve treatment outcomes—a challenge Salifu is working to solve through an intensive research practicum at the University of Alberta.

> "Each one of us from the University of Ghana has become a better researcher because of our time here. I am overwhelmed and very proud to be associated with the University of Alberta."
>
> Yakubu Salifu

"Tuberculosis has been a major problem in Ghana since time immemorial. And many people have different cultural beliefs about the cause, and that can affect treatment," says Salifu, a nursing master's student at the University of Ghana. "If you believe TB is caused by some spirit or witchcraft or whatever, you may not see any need to take medication from the hospital."

The stigma of TB has not only led to social isolation, but it can also lead to outright hostility toward patients—affecting their desire to seek treatment, their familial support and even the quality of care from some health workers. And even if patients do seek treatment, they often stop when they first start to feel better, before the drugs have run their course.

Solving this social-cultural and service-delivery problem is a major challenge, but one Salifu is looking to tackle with help from the U of A's Faculty of Nursing. Salifu is one of 12 University of Ghana students who spent seven weeks in Edmonton on an intensive practicum—researching topics such as breast cancer, midwifery, pregnancy complications and mental health.

It's part of a decade-long partnership with the faculty's Global Nursing Office, says Sylvia Barton, associate dean of global health. The program is not only advancing health care in Ghana, but also transforming post-secondary by training the next generation of professors to educate students.

"Ghana's progress in terms of health systems, development and educating health sciences professionals requires the development of nursing and nurses with an advanced education to help them move into a self-sustaining cycle," Barton says. "The health of Ghana is going in a positive trend toward increased health, but it does have a way to go."

Salifu says he's enjoyed the opportunity to live and work on the U of A campus, including access to the university's libraries, which are more comprehensive than Ghana's and add to the value of the practicum experience. He's enjoyed his experience so much he's looking to apply for the PhD program in nursing.

"Each one of us from the University of Ghana has become a better researcher because of our time here. I am overwhelmed and very proud to be associated with the University of Alberta."

Supplied

Tuberculosis, a major health and social problem in Ghana, is one of the challenges 12 students from the University of Ghana are working to solve through an intensive research practicum at U of A.

U of A staff lend helping hand in Calgary flood recovery

News Staff

University of Alberta staff have been busy lending a hand as southern Alberta recovers from devastating flood damage.

Teams from the U of A community pulled together to help out in various ways, from organizational work to helping clean up the beleaguered city of Calgary and saving a museum collection in High River.

Supplied

Gillian Edwards, Stephanie Mahovlic and Alan Clay from the U of A's Calgary Centre helped with cleanup at Prince's Island Park June 30.

Risk Management Services, Facilities and Operations and Ancillary Services were among the first to answer the call for aid at the end of June by helping out their colleagues at University of Calgary residences. Those facilities were opened for evacuees following floods that forced hundreds of people Calgary and High River last month.

The first team of 19 U of A workers—four front desk staff and 15 housekeepers—was gathered and bused to Calgary over the Canada Day weekend and stayed until mid-week, then were relieved by a second team who stayed until July 5.

At the University of Calgary's further request, the U of A sent another replacement team of 12 housekeepers July 5 who stayed on duty until July 12.

The workers were instrumental in co-ordinating registration efforts for the first wave of evacuees, and then with preparing rooms on an ongoing basis, said Doug Dawson, executive director of Ancillary Services for the U of A. Overall, the workers served 450 evacuees and more than 100 emergency response workers who were staying at the residences. Staff from U of A residence life services also aided some of the victims with counselling, Dawson added.

"Everyone is feeling a lot of satisfaction that they were able to help, and it just speaks to the character of the people we have working at the U of A that they would do that."

The U of A Digital Strategy team also provided support to back up the University of Calgary's website and stood ready to help over the long weekend as well.

And a handful of staff from the U of A's Calgary Centre were busy June 30, grabbing rakes and shovels to help other volunteers and City of Calgary workers remove mucky silt that had coated trees, grass, picnic tables and lampposts in Prince's Island Park in the downtown area.

> "As all of these U of A teams contribute to Calgary's recovery efforts, they make us proud by demonstrating the professionalism, dedication and teamwork that distinguishes them as members of the University of Alberta community."
>
> Indira Samarasekera

"We were in work boots and protective gear, clearing mud that was literally calf-deep," said Alan Clay, director of University Relations at Calgary Centre. The work was back-breaking—and rewarding.

"These are our neighbours, and our role at the U of A is to engage with all of our communities. It is tough to be in a community where you see such devastation and not help," Clay said.

Supplied

The normally green grass of Calgary's Prince's Island park was left blanketed in a layer of mud after the flood waters receded.

In High River, a group from U of A Museums joined in a concerted effort to salvage a collection of historical artifacts at the Museum of the Highwood that suffered damage from the flood.

In a message on the Colloquy blog, President Indira Samarasekera praised the effort and caring shown by U of A members, and sent out thanks for all of the hard work that helped ease the situation for a neighbouring city.

"As all of these U of A teams contribute to Calgary's recovery efforts, they make us proud by demonstrating the professionalism, dedication and teamwork that distinguishes them as members of the University of Alberta community.

"I extend my thanks and gratitude to these people and to all other U of A family members—faculty, staff, students and alumni—who are helping with flood relief work," she said.

Samarasekera's thanks were echoed by U of C board chair Bonnie DuPont in a video message to U of A staff.

"We were working 24/7 here and we were in bad need of some help, and you came through. We couldn't have done it without you," said DuPont.

Taking another look at tailings ponds, ducks and cannons

Alan Shapiro

A University of Alberta researcher is taking a new look at what happens when birds come into contact with oilsands tailings ponds.

Colleen St. Clair, a professor in the Department of Biological Sciences, studies human-wildlife conflicts—such as the incident that killed 1,600 ducks that landed in the Syncrude tailings ponds in 2008. The deaths led to an intense effort by the provincial government and U of A researchers to find ways to mitigate the consequences of human-wildlife interactions through the Research on Avian Protection Project (RAPP).

The project came about when St. Clair was asked to work with the courts to design a creative legal sentence, which imposed a fine that was partially allocated to creating RAPP. The ongoing research is shedding light on the interactions of birds and tailings—waste from bitumen refining composed of sand, clay, water and residual bitumen that are stored in large open-air ponds. The ponds are widely criticized as a significant environmental hazard, especially given the proximity of industrial operations to the Athabasca River, a major migratory corridor, and the risk of bitumen fouling the feathers of birds.

Over the past three years, St. Clair has identified tens of thousands of bird landings every year, but found fewer than a hundred dead birds. This interpretation is supported by experiments with captive ducks that were exposed repeatedly to tailings pond water with no measurable health effects. These findings could play an important role in redefining deterrent systems—instead of preventing birds from landing on ponds altogether, a more effective and cheaper alternative could be to reduce landings in bitumen. This can be accomplished by confining the bitumen, and distributing deterrent systems accordingly.

As deterrents go, long-range acoustical devices, or "sound cannons," have become increasingly popular because they can be deployed automatically and emit a variety of programmed sounds. But St. Clair warns that the cure may be more harmful than the disease itself. Her research has shown that sound waves from these devices travel into the surrounding boreal forest, potentially harming birds and other animals. As alternatives, the research team is experimenting with coloured lasers and with robots that mimic predators. They hope to identify solutions that pose less harm, while offering significant savings to industry.

In the oilsands and elsewhere, birds seem to be attracted to artificial lights, particularly on dark, overcast nights. Birds trapped by the lights at mine sites may be more likely to land in bitumen. A simple solution, employed on offshore oil platforms, is to replace conventional illumination with green lights, which are less attractive to birds.

St. Clair says her work exemplifies the role of science in informing decision-making, and her students have gone on to work in the private sector, government, environmental NGOs, academia and even ethical farming. She refers to the relationship between government, industry, and academia as a "three-legged stool," in which each leg must fulfil its role for the system to function effectively. She believes that if these complementary roles are clearly defined and a positive relationship is maintained between the three bodies, science can play an important role in identifying actions that balance the needs of industry and the environment.

Supplied

Colleen St. Clair's research project is aimed at finding better and cheaper methods of preventing harm to birds that land on oilsands tailings ponds.

Canada's national women's basketball cagers a slam dunk for the U of A

Matt Gutsch

Continuing its reputation as a leader in the development of women's sport in Canada, the University of Alberta is the new home and training centre of the Canada Basketball Senior Women's National Team.

The team, which advanced to the quarterfinals at the 2012 Summer Olympic Games in London, will train year-round at the Saville Community Sports Centre on the U of A's south campus. The 32,516-square-metre, multi-sport facility includes 12 International Basketball Federation-size basketball courts, as well as the recently unveiled High Performance Training and Research Centre—an 836-square-metre training and sport research space that features multiple Olympic weightlifting sets and platforms, squat cages and pull-up stations, as well as gymnastic, dynamic and acceleration mechanics areas and state-of-the-art metabolic conditioning bikes.

Having Canada's national women's basketball team based at the U of A, and in Edmonton, opens up opportunities to further develop interest in women's basketball throughout greater Edmonton and northern Alberta. The partnership between the national program and the Faculty of Physical Education and Recreation will broadly strengthen the sport system in the city, the province and beyond through increased opportunities for developing integrated support systems such as coaching, sport science and sport medicine.

Richard Siemens

The arrival of the Canadian national women's basketball team is the latest success for the U of A in developing women's sport.

The U of A began to establish itself as a leader in the development of women's sport in the 1990s with the addition of women's hockey, women's wrestling and women's rugby, as well as through the dedication of resources like full-time head coaches to women's sport. Between 1995 and 2005, U of A Pandas female student-athlete teams combined to win a staggering 19 Canadian Interuniversity Sport national championships in six sports. As a result, Pandas hockey and Pandas rugby are the most successful women's hockey and rugby programs in CIS history, with a legacy of championships, provincial and national team members, and community leaders and coaches. More recently, Pandas teams have won 10 of the 20 CIS national championships the U of A has collected over the past decade.

The arrival of the Canadian women's national team is just the latest success for the U of A in developing women's sport. Recently, the Faculty of Physical Education and Recreation, which houses Golden Bears and Pandas Athletics, raised $60,000 for U of A female student-athlete scholarships at an event that featured Anne Merklinger, CEO of Own the Podium and one of the most influential women in Canadian sport history, as the guest speaker.

Study shows more support needed for breastfeeding moms

Bev Betkowski

More support is needed to help women overcome doubts in the hope that they will breastfeed their babies for longer, says a University of Alberta nutrition researcher.

A study conducted in Alberta by the U of A showed that new moms are weaning their infants early instead of feeding them just breast milk for the first six months, said Anna Farmer, an associate professor in the Department of Agricultural, Food and Nutritional Science and the Centre for Health Promotion Studies. That falls below World Health Organization recommendations endorsed in 2004 by Health Canada and the Canadian Paediatric Society.

"Women's attitudes towards breastfeeding even before the baby is born can predict whether or not moms are going to breastfeed, so it is important that everything from the home environment to public spaces supports nursing moms," said Farmer. "We need to address their concerns and misconceptions about breastfeeding, especially young first-time mothers."

Richard Siemens

Anna Farmer (right) with new mom Amy Soetaert and baby Payton.

Farmer and her colleagues surveyed 402 pregnant women from Edmonton and Calgary at three months postpartum and 300 of them again at the six-month mark, and found that though almost 99 per cent of the women started out breastfeeding their babies, only 54 per cent were still exclusively breastfeeding three months after giving birth. That number dropped again to 15 per cent by six months, in line with the national average, which is also low for breastfeeding.

The study results stem from the Alberta Pregnancy Outcomes and Nutrition project, research being conducted jointly by several Alberta agencies to study the links between nutrition and maternal and child health.

The study, published recently in the journal *BMC Pediatrics,* showed that more than half of the women in the study stopped breastfeeding because of their perceptions of milk inadequacy or other problems.

Worries about producing enough milk (a problem for only one to five per cent of women, Farmer noted), lack of available support from other women in the family, lack of nursing rooms in public places and cultural discomfort with breastfeeding may all cause mothers to shorten the nursing period, Farmer said.

New mom Amy Soetaert, who gave birth to daughter Payton in June, plans to breastfeed exclusively for as long as possible, hopefully until her baby is ready for solid food. "As long as it is working for her and working for me, I would like her to be on breast milk for as long as it is fulfilling her nutritional needs," said Soetaert.

Farmer advises new moms to breastfeed for as long as possible, even on a partial basis. "Some breast milk is better than none."

The first few days after giving birth were the most challenging in the nursing process, Soetaert said, adding that advice from other women in her family and from a health nurse helped her overcome her initial feelings of discouragement.

Soetaert advises new moms to realize that nursing is a learned skill that takes time. "Give yourself a break if it doesn't go as well as you thought it would. You need to be willing to ask for help if you need it, and that is OK."

The study also showed that women with post-graduate university degrees were 37 per cent more likely to breastfeed exclusively for six months than those without a degree. Mothers with previous children were also more likely to breastfeed for longer.

Farmer hopes the findings will help doctors, nurses and other health practitioners advise pregnant women, with a focus on what may or may not be known about exclusive, long-term breastfeeding, to help promote the practice beyond the first few months.

The study also recommends more policy provision for nursing rooms in public facilities. "The social environment needs to be more open. Women need spaces where they can breastfeed quietly without feeling ashamed," Farmer said.

The study was supported by a research grant from Alberta Innovates – Health Solutions, as well as the Faculty of Agricultural, Life and Environmental Sciences and School of Public Health.

Wildfires projected to get more common, harder to control

Michael Brown

Devastating wildfires the likes of which razed Slave Lake in 2011 will become more common and tougher to control, according to new research from the Faculty of Agricultural, Life and Environmental Sciences.

Mike Flannigan, professor in the Department of Renewable Resources and director of the Western Partnership for Wildland Fire Science, and his team used weather models to predict that global warming will increase the severity of wildfires in the northern hemisphere threefold by the end of the century and extend Canada's fire season by 20 days.

Supplied

Mike Flannigan

"Temperature is strongly related to fire activity—the warmer it gets, the more fire we get," said Flannigan.

He explains that warmer weather increases the rate of evapotranspiration—the combination of evaporation and plant transpiration, which leads to drier and more combustible forest fuels. "For every degree of warming we need a 10 per cent increase in precipitation to compensate, and we are not seeing that."

Flannigan says his team was able to show that a rise in temperature will increase the length of the fire season by three weeks over the next 85 years. He adds that the ensuing warmth will also invite more lightning strikes. Currently in Canada, lightning starts just 35 per cent of wildfires but is responsible for 85 per cent of the area burned.

Given this relationship between fire activity and temperature, Flannigan and his team held their results up to the Wildfire Severity Index, a weather-based fire danger metric that classifies fires according to size and intensity, and asked how difficult it will be to suppress these fires in a warmer world.

"What we're finding is this index is going to increase by a factor of three," he said. "This means fires globally are going to be three times harder to put out than they are now."

Flannigan says you don't have to look very far back to see how vulnerable we are in the face of out-of-control wildfires, pointing to the devastation caused in Australia in 2009 and again last year, in Russia in 2010, in Slave Lake and Colorado Springs in 2011 and in Arizona earlier this year. "Things are tough right now—and this research suggests it's going to get even tougher."

He says the world's wildfires annually burn between 350 million and 600 million hectares of forest, an area equivalent to the size of India. And although protecting communities from a wildfire's path is paramount to prevention and planning, he says, wildfires also take an economic toll, and not just on the forestry sector. In 2011, dips in Canada's GDP were attributed to delivery problems caused by wildfires in Alberta.

Flannigan says this research will help the province, which spends roughly $800 million on direct fire management every year, prepare for the challenges that lie ahead.

"The University of Alberta has a long tradition of doing fire research. I am just continuing in that tradition of research," he said. "Fire is important to economics and community protection, but also to understanding the natural role of fire.

"The more we understand about fire, the better we are able to manage it."

Flannigan concludes that although wildfires aren't necessarily bad things from an ecological standpoint—our boreal forests survive and even thrive from a regular regime of stand-replacing intensive fires—his research suggests we may be reaching the limits of what forests can take.

"If we get a lot more fire, what's going to happen to the boreal forest?" he said. "By the end of the century we will be in uncharted territory as far as the amount of forest fires."

Flannigan and his team are following up this research by looking at recent research suggesting the northern hemisphere's jet stream—the band of fast-flowing air 10 to 12 kilometres above the Earth—is weakening, and how that pertains to wildfires.

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The world's wildfires annually burn an area of forest equivalent to the size of India.

Math research could lead to quantum leap in classroom

Michael Brown

The habitual and modest approach to presenting mathematics in the classroom is a far cry from the oft-intriguing interplay between ideas and numbers that unfolds in a research setting.

But if Charles Doran has his way, the math classroom will set its sights on being anything but ordinary.

Richard Siemens

Charles Doran

"Usually, mathematics is presented to the students in a very dry fashion—definition, dilemma, proposition, theorem—but that's not the way you generate new mathematics. That's not the way mathematicians do mathematics," said Doran, a professor in the Department of Mathematical and Statistical Sciences.

To help bring about this metamorphosis of classroom math, and to honour him for his past achievements, Doran has been awarded a 2013-14 McCalla Professorship. The McCalla is designed to enable researchers to concentrate on research and creative projects, the results of which will enhance the classroom experience.

McCalla

Doran's research sits at the interface of algebraic geometry and string theory. In navigating the complicated theorems involved in reconciling the competing forces of the universe, he says it has been useful to make use of computational mathematics software for experimentation before formulating conjectures and proving theorems. Now, Doran is setting out to adapt these research tools for the classroom.

"What the McCalla does is spread that gospel to the undergraduate and graduate students, while at the same time applying it systematically to my own field in a graduate topics course," he said. "The goal is to introduce the methods of doing research using computer algebra systems and to do this in a hands-on way with projects that are either self-designed by the students or handed to them by their advisers."

Doran is leading a team that is developing a 400-level course for the fall that follows this computational-equals-experimental route to research in mathematics that makes use of free open-source software.

As well, tools developed for these investigations will be adapted for graduate instruction by way of a live online course on Calabi-Yau Geometry—the leading approach to unifying quantum mechanics and general relativity—which will be simulcast to students from the University of British Columbia.

The timing of this graduate course is to help in the buildup to the much-anticipated 2014 String Math Conference to be held at the U of A in June 2014.

"This gets students started on curiosity-driven research at a very early stage," he said. "For students to be able to develop their own research and actually do the projects their advisers would like them to do at some basic level, experimentation using computer algebra systems is sort of a new way of approaching the subject—and it's proving very powerful."

Building digital content into the math curriculum

Charles Doran is leading a team that received a $136,606 University of Alberta Teaching and Learning Enhancement Fund grant to develop mathematics content across the undergraduate curriculum using computer algebra systems.

This three-year project will generate, for the very first time anywhere, non-commercial course materials and accompanying tools that are easy to use, widely available, well documented and modifiable.

He says a permanent library of applets and modules for use across the undergraduate mathematics curriculum will be built, and the support necessary for all instructors to use and create new computer-based instructional materials of their own will be provided.

"The strategy is to take the same philosophy of using a hands-on, interactive style that applies to undergraduate research and research at the faculty level, and apply that to the undergraduate level in courses ranging from calculus through linear algebra and differential equations," Doran said. He notes that the courses will take advantage of some free, open-source computer algebra systems that are available now. "It allows us to perpetuate best practices in teaching mathematics at the undergraduate level."

He says he sees a time when part of this initiative will be applicable to the MOOC movement.

"What we're doing is not, as far as I can tell, something that anybody else is doing, to use these open-source computer algebra systems across the curriculum," he said. "If this plays out the way we hope over the next three years, then we'll have a very consistent and comprehensive integration of computer algebra systems into all of this."

Doran says he has already fielded calls from institutions interested in monitoring the U of A's progress on this project and measuring how our effort fits into the broader international spectrum.

"Initiatives like the McCalla and the TLEF are an indication of a commitment on behalf of the provost's office to trading on equal footing the emphasis on teaching and research, even among the most research-active faculty. That is a message you do not hear at every institution."

Weight gain early in pregnancy means bigger, fatter babies

Bryan Alary

Moms-to-be who gain too much weight early into their pregnancy are nearly three times as likely to give birth to bigger and fatter babies, warns a University of Alberta researcher.

A study of 172 expectant mothers found that women who gained excessive weight during the first half of pregnancy gave birth to heavier and longer babies with more body fat than babies of women who either did not gain as much weight or put it on later in their pregnancy.

The results underscore the need to educate expectant mothers about the dangers of early weight gain during pregnancy and importance of healthy eating and exercise, said lead author Margie Davenport, an assistant professor in the Faculty of Physical Education and Recreation.

"Expectant mothers and health professionals need to be aware of pregnancy weight-gain guidelines and follow them to build a foundation for a healthy pregnancy and healthy baby," said Davenport.

The study included data from 172 healthy, expectant mothers living in London, Ont., between 1995 and 2011. The women were non-smokers with a body mass index of at least 18.5 when they were between 16 and 20 weeks pregnant. A BMI below 18.5 is considered too thin; anything above 25 is considered overweight.

All women in the study were encouraged to follow a basic exercise program of three to four aerobic workouts a week. They also had access to eating guidelines to promote healthy weight gain during pregnancy.

Maternal weight gain was scored against the 2009 Institute for Medicine guidelines for pregnancy, comparing data with their pre-pregnancy BMI.

More than half of the study participants—52 per cent—gained excessive weight during their pregnancies; however, women who gained weight during the first half of their pregnancy were 2.7 times more likely to give birth to bigger, heavier babies. These babies also had excessive body fat, greater than 14 per cent.

"Healthy eating and physical activity when pregnant have long-lasting benefits to mother and child," Davenport said. "Infants who are larger at birth tend to become larger children, and that creates a risk for developing into obese and overweight children and adults."

Sarah O'Hara knows the dangers of gaining too much weight too quickly, both as a new mom and a registered dietitian who specializes in obstetrics. One of the key challenges to ensuring expectant mothers eat properly is overcoming the old saying "eating for two," she said.

"For many mothers, eating for two is taken too literally. People feel like they've been given an allowance to eat whatever they want, and that can lead to weight gain," said O'Hara, a U of A alum.

During her own pregnancy she closely monitored her weight, stayed active and followed the Canada Food Guide, adding additional servings later in the pregnancy and eating extra dairy and protein, and limiting caffeine.

Staying active hasn't been a challenge for Carolyn Terry, who is seven months pregnant. A yoga instructor and U of A alum in kinesiology, Terry said expectant moms like her can maintain their physical activity levels, although some modification may be required.

Supplied

Margie Davenport led a study showing that too much weight gain early in pregnancy can lead to larger, chubbier babies.

"You have to work at your own level and listen to your body," she said.

Davenport started the study as a PhD student of U of A alum Michelle Mottola at the University of Western Ontario and continued the research through a post-doctoral fellowship, finishing the work after her arrival at the U of A last January. A key draw for coming to the U of A was the opportunity to work alongside leading researchers in obesity and pregnancy, she said, with her research program affiliated with the Physical Activity and Diabetes Laboratory and Alberta Diabetes Institute.

Davenport said she will follow up this research by exploring how interventions earlier in pregnancy, such as lifestyle changes to diet and exercise, can improve the long-term health of mother and infant.

The study was published July 9 in the peer-reviewed journal Obstetrics & Gynecology and was funded by the Canadian Institutes of Health Research and the Heart and Stroke Foundation of Canada.

Researchers develop app to address pain points at home

Meagan Hampel

Think about the risks in the everyday work of an Albertan health-care aide: a considerable amount of travel, risking weather and road conditions; visiting patients in their homes, which may be isolated; and coping with the emotional and physical concerns of patients who are ill and under considerable duress. Add to that the need to communicate with patients, find their records, draw on other critical medical information and implement decisions about ongoing care and scheduling—all remotely.

To help alleviate these pressures, a group of researchers from the University of Alberta, funded by Alberta Health, have created a mobile application for tablets that uses a cloud-based service to schedule appointments and record the prescribed care plan. In a study carried out in 2012, the touchpad resource allowed health-care aides to stay in touch with the patients' health-care team.

Co-principal investigators Eleni Stroulia in the Department of Computing Science, and Lili Liu in the occupational therapy department in the Faculty of Rehabilitation Medicine, presented their findings last week at the 2013 International Conference on E-learning in the Workplace in New York. Technical support for the project, including data storage and security on the cloud, was provided by Cybera, Alberta's not-for-profit technology innovation organization.

"In analyzing the work experience of health-care aides, we found that there was a serious disconnect between the staff members who were in the homes with the patients and the rest of the care teams, particularly when the aides were working with a patient in a rural location," said Stroulia.

The Health Care Aides and Technology project addressed seven "pain points" identified by the researchers in an extensive study of health workers: having up-to-date information on patients; scheduling that is inefficient or inflexible; infrequent communications where relevant information can be lost; lack of authority on the part of the aide to make high-level decisions on patient treatment; lack of in-hand knowledge should an unexpected situation arise; emergency situations that occur in home or on the road; and travel or navigation issues in rural areas.

"We've used an ecosystem of technologies to address the challenges facing health-care aides in their everyday work. The goal is higher quality and more efficient care delivery, and this technology enables us to communicate faster and share better information," said Stroulia.

The pilot successfully demonstrated how cloud computing can be applied to specific areas of health care.

Summer school connects Aboriginal girls to Cree culture

DC Brandon

The Alliance Pipeline Young Women's Circle of Leadership, an annual summer school designed to bring young Aboriginal women aged 12 to 16 to the University of Alberta campus for Cree language lessons and cultural activities, is now in its fifth year. The summer school ran July 8-17 at the north campus.

About CILLDI

The Canadian Indigenous Languages and Literacy Development Institute has been in operation since 2000. Throughout this time, it has provided practical training to students, which has been directly implemented back in the community. It is a tri-faculty initiative at the University of Alberta, involving the faculties of arts, education and native studies. CILLDI strives to be multicultural, cross-linguistic, interdisciplinary, inter-regional, intergenerational and responsive to different sociolinguistic situations in language communities under threat.

Each day, instructors attached to the summer school through its organizing body—a three-faculty initiative known as the Canadian Indigenous Languages and Literacy Development Institute (CILLDI)—celebrate traditional indigenous language and knowledge through interactive lessons designed to nurture leadership skills in the young women.

They are instructed in Cree by Ivy Houle and Donna Macdonald, both of whom are Cree immersion instructors. They are taught counting and colours, and are even able to explore their Cree names. The participants also get a chance to learn Cree language and culture through music and guitar played by Houle.

According to Shelby LaFramboise–Helgeson, co-ordinator of the Alliance Pipeline Young Women's Circle of Leadership, the young women also take part in other meaningful activities, including drama and storytelling.

Through these activities, they are connected to a series of traditions with a history that is deeply rooted in their cultural background.

"These indigenous young women have entered a new zone of identity once absent at the University of Alberta's campus grounds. This program is rare indeed and provides voice and presence at the U of A. These girls are here to learn their language; however, they have much to teach us about ourselves," said LaFramboise-Helgeson.

Supplied

Students in the Alliance Pipeline Young Women's Circle of Leadership show each other the moccasins they created during class.

Camp connects kids from Alberta and China in biomedical adventures

Richard Cairney

An element of unexpected discovery can crop up at Faculty of Engineering DiscoverE engineering, science and technology camps. This month, for example, youngsters in a biomedical design camp worked alongside students visiting from Hong Kong.

The Chinese students were enrolled in the week-long Biomedical Design camp as part of a two-week study tour to Canada.

Working together, a camper from Tofield, Alberta, and a camper from Hong Kong designed and created a prosthetic hand using string, straws, cardboard, paper and a lot of masking tape. In the process, they learned about human anatomy, how bones work and how engineers can help solve medical challenges.

> "I like physics and biology and chemistry, but I wouldn't be learning some of these things in Hong Kong."
>
> Maurice, 14

And, just as important, they made friends with someone from another country.

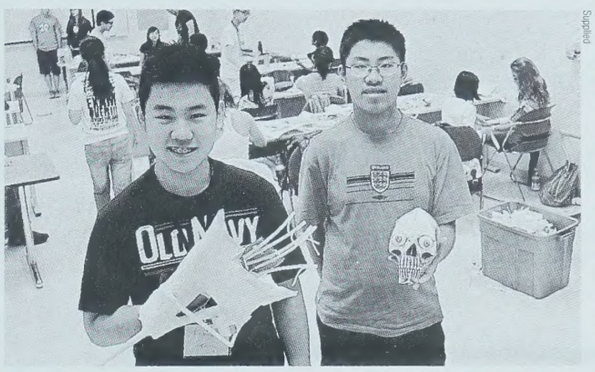
Instructors Stéphane Magnan and Ashley Stoltz, who are studying mechanical engineering (biomedical) and microbiology respectively, are able to deliver a blend of medical knowledge and engineering principles. Other projects in the week-long camp included making paper models of lungs and skulls, complete with ping-pong-ball eyes and spines.

"This is a really great experience—it has taught me quite a few new things," said Joshua, a 13-year-old camper from Tofield. His work partner, 14-year-old Maurice, part of the Hong Kong study group, said the DiscoverE camp presented him with new knowledge and a setting where he could practise his English skills.

"I like physics and biology and chemistry, but I wouldn't be learning some of these things in Hong Kong," he said, explaining that he was getting a leg up on his classmates back home.

"It's fairly in-depth biology," said Stoltz. "Some of this stuff I didn't learn about until my first year of college."

DiscoverE camps run on campus until Aug. 19. To find out more, visit discovere.ualberta.ca.



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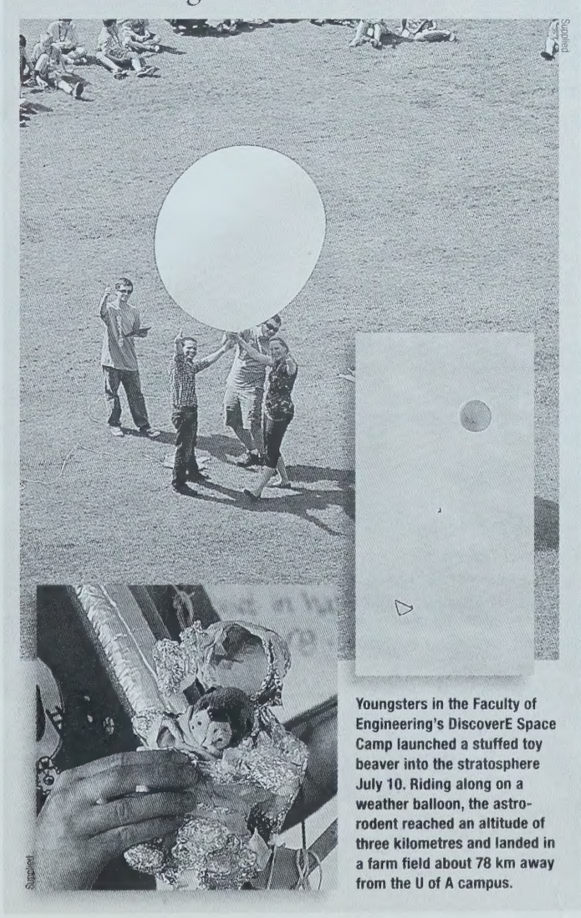
Two DiscoverE campers show off the biomedical design projects they worked on.

Launching a new breed of astronaut



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Youngsters in the Faculty of Engineering's DiscoverE Space Camp launched a stuffed toy beaver into the stratosphere July 10. Riding along on a weather balloon, the astro-rodent reached an altitude of three kilometres and landed in a farm field about 78 km away from the U of A campus.

Girls explore energy and the environment at camp

Richard Cairney

If you close your eyes and listen to the conversations going on in Alyx McMillan and Kim Smith's DiscoverE engineering, science and technology group, you might be excused for thinking you're in a room full of engineers.

The talk is about energy efficiency and sustainable design. But the "engineers" in question are junior-high-aged girls taking part in the DiscoverElle summer camp offered through the University of Alberta's Faculty of Engineering.

During the week-long summer camp, the girls are exploring energy efficiency under the guidance of McMillan, who is entering her third year of engineering, and Smith, who just graduated with a degree in physiology. And the budding engineers seem to love the hands-on approach to learning.

Projects included designing and creating energy-efficient "buildings," taking part in a river valley nature walk and using an app to connect with other kids around the world to identify animals and plants, and soldering their own circuit boards to make cellphone chargers.

"It's like science class—but it's all the fun stuff," says one of the campers.

"And we don't have to do tests," adds another, who has also been involved in the Faculty of Engineering's Girls, Engineering and Mentorship (GEM) Club.

At one table, a group of three girls are creating energy-efficient houses out of cardboard, plastic wrap, black cloth and tinfoil. Of the four, three have met previously at DiscoverE or GEM Club. At another table, two Grade 7 girls help each other out with their designs: one of the girls explains that by using a gabled roof with plastic wrap, she hopes to capture more sunlight; the other has made double-paned windows to help hold in the heat.

Supplied

DiscoverElle group members enjoy the hands-on aspect of engineering.

Their instructor, McMillan, is delighted. She hopes that after she graduates she will be able to apply her engineering education to alternative energy technologies. She also remembers becoming passionate about the subject at about the same age as the girls she is now supervising.

"It was when I was in Grade 9 and we were talking about energy efficiency in class that I started thinking about going into engineering," she says. "The concept of energy efficiency is important to us all, and it's important that future generations understand it too."

DiscoverE summer camps offer programming designed to nurture an interest in engineering, science and technology among girls. For fun all-girls' DiscoverE camps:

DiscoverElle Mini (Grades 1–2) July 29–Aug. 2

DiscoverElle Junior (Grades 3–4) July 22–26

For more information, visit discovere.ualberta.ca.

news [shorts]

folio presents a sample of some of the stories that recently appeared on the ualberta.ca news page. To read more, go to www.news.ualberta.ca.

Change to vacation accrual for NASA staff

In the 2012-2015 NASA Collective Agreement, changes were made to introduce a new method of granting vacation entitlements to NASA staff. The total amount of the vacation entitlement remains the same, but the method that Human Resource Services uses to grant and record the entitlement has changed.

Vacation will be credited at the end of each pay period rather than being advanced at the beginning of the month as was the prior practice. As a result, pro-rated entitlements for partial months worked will no longer be necessary.

The Vacation/Banked Time page within Bear Tracks will always show your vacation balance as of the end of the last pay period processed. For example, if the current date is July 5, the balance showing is as of June 30. Time earned or taken since the last pay period ended will be reflected on the next balance.

The vacation year as defined in the NASA Collective Agreement will remain as April 1, but the vacation carry-forward year shown in Bear Tracks will change to January 1 beginning in 2014. Vacation balances as of December 31, will be the carry-forward balance in January 2014.

Vacation leave accrual will run on the night of each semi-monthly pay confirm, which is about six to eight days after the pay period ends. After each leave accrual new entitlements are granted, vacation taken is reduced and your vacation balance will be updated.

For more information contact your department's HR/payroll contact. For additional information, please contact Payroll Operations at 780-492-4555, Monday to Friday 8 a.m. to 4 p.m., or by email at Payroll.Operations@ualberta.ca.

CIHR invests $1M for two cardiovascular scientists

Operating grants from the Canadian Institutes of Health Research have provided $1,085,888 for projects by two researchers in the Faculty of Pharmacy and Pharmaceutical Sciences.

Ayman El-Kadi, associate dean of research and graduate studies, received $647,361 over five years. Assistant professor Paul Jurasz received $438,527 over four years.

"These grants are a wonderful recognition of the excellent research done by our pharmacy faculty members that will help Canadians who have cardiovascular disease," said James Kehrer, dean of pharmacy.

"It's a difficult grant to receive," said El-Kadi. "It shows the continued quality of research coming from our faculty."

"We hope this funding will lead to a better understanding of cardiovascular biology and the mechanisms by which strokes and heart attacks occur," said Jurasz. "If successful, the funding could lead to prognostic tests that may help better predict the risk of stroke and heart attack."

El-Kadi's research will identify the molecules responsible for the enlargement of the heart and heart failure.

"This research will help to diminish health-care costs and to design strategies that improve treatment of heart failure," said El-Kadi.

Computer Poker Research Group comes up aces

The U of A's Computer Poker Research Group won three of six events at the eighth annual Computer Poker Competition held at the Association for the Advancement of Artificial Intelligence conference held July 14-18 in Bellevue, Wash.

In the competition, the premier event for computer poker, 19 teams from 14 countries competed in three variants of Texas Hold-'Em. Each variant had two events, one focused on not losing to anyone ("instant run-off") and one focused on beating bad players ("total bankroll"). In heads-up no-limit play, the U of A team took first in instant run-off. In three-player limit, the team took first in both instant run-off and total bankroll. The team also recorded two second-place finishes and a third-place finish in the other three events.

Fifty million hands of poker were played between all of the computer programs.

Report examines Alberta labour market, shortages

The scope of Alberta's labour shortage and the need for recommendations on how to address it were the catalyst for a year-and-a-half-long study commissioned by the U of A's Institute for Public Economics.

An Examination of Alberta Labour Markets explains that the opportunity cost of not filling jobs under an economic scenario similar to that outlined in Alberta's 2013 budget is $33 billion in current dollars over four years. Lost personal tax revenue to the provincial and federal governments is estimated at nearly $6.8 billion over four years.

The report emphasizes that several industries risk significant shortages, including retail, hotel and food services, and health care. Edmonton and the Banff–Jasper region are at the greatest risk for labour shortages.

To counteract these trends, the report's authors developed recommendations to provide access to untapped labour groups including mature workers, disabled people and First Nations people.

"This comprehensive analysis leads to a number of concrete policy actions that can be taken by both the federal and Alberta governments," said Robert Ascah, director of the institute. "The report's recommendations are aimed at developing a highly skilled workforce, which will benefit all Albertans."

The report is available online at ipe.ualberta.ca.

Two new Schulich Leaders U of A bound

Michael Brown

With futures in medicine set firmly in their sights, University of Alberta-bound Taylor Rocque of Stony Plain and Michelle Liu of Lacombe were announced as winners of the Schulich Leader Scholarships, the richest undergraduate scholarship program in Canada.

The Schulich Leader Scholarships annual program, which awards 40 students headed to 20 Canadian universities with four-year, $60,000 scholarships, recognizes Canadian high-school students who demonstrate excellence in academics and community leadership, and who plan to commence study in the areas of science, technology, engineering or mathematics.

In her application for the award, Michelle Liu, who will start down the path of becoming a biomedical engineer in the fall, wrote she has always had a singular determination, which she has put to good use in her hometown of Lacombe.

"Becoming involved in my community is important in fostering a better understanding of the society I live in and becoming a better citizen within it."

Since 2012, Liu has volunteered more than 100 hours at the Lacombe Hospital and Care Centre, helping to improve the quality of life of the residents and complement the delivery of patient-focused, quality health care.

When she was 12, she was chosen to perform a piano concert with the Canadian University College Orchestra in a benefit concert to replace aging pianos at the college. More recently, Liu spent last summer enrolled in the U of A's WISEST Summer Research Program in biomedical engineering.

"I always see an opportunity to learn something," she wrote. "Turning things into learning opportunities enables me to think critically and be innovative."

Taylor Rocque, who had near-perfect Grade 12 marks in being accepted into the Faculty of Science, is the president of her Stony Plain high school's Rotary Interact Club, the school's largest extracurricular group, consisting of more than 20 members.

"Leading more than 20 students and getting the club started has been a challenging and rewarding learning experience for me," wrote Rocque. "As a part of this group, I have been able to make a significant difference in my community."

Supplied

Supplied

Michelle Liu (left) and Taylor Rocque, the U of A-bound 2013 Schulich Leader Scholarship recipients.

The club formed a link with a school in Belize to funnel south learning materials and funding to improve classrooms. The club was also instrumental in organizing a number of fundraising initiatives to benefit underprivileged families in the community.

Finding time to volunteer as a tutor and compete as a competitive softball player, Rocque was one of 22 students chosen from the Northern Alberta area to participate in the Heritage Youth Researcher Summer Program last year. As part of the program, she received a six-week paid internship at a research lab at the U of A.

"I was lucky to be chosen to work in the lab of pediatric cardiologist Lori West," wrote Rocque, whose research focused on developing an optimized protocol for isolating and counting immune-system cells. She says the experience was instrumental in cementing her resolve to pursue a career in medicine.

"I approach everything I do with both a positive and ambitious attitude," she said. "I wish to take advantage of every opportunity put in front of me."

classified ads

ACCOMMODATIONS FOR RENT

RENAISSANCE PLACE. 9918 – 101 Street. 10th floor overlooking panoramic view of river valley. Fully furnished. 1 bedroom executive condo, computer room, hardwood floor, granite counter tops, pool, fitness, sauna, billiards. 7 min drive to U of A. Indoor parking, power, heat, water included. $1,500/month. D.D. no pets. August 1. 780-437-7363.

BEAUTIFUL ST. ALBERT CONDO. 1,238 sq. ft. fully furnished, condo in downtown St. Albert. 2 bedrooms, 2 full bathrooms, 2 underground parking stalls. All utilities, cable and internet included. Lease term negotiable. $2,050/month. 780-264-8274. amber.wood@onetreeres.com.

HOUSE TO SHARE. Visiting professor has house to share in Windsor Park. Steps from campus. Details: brettl@ualberta.ca.

UNIVERSITY. 1,600 sq. ft. unfurnished duplex backing onto Derrick Golf Course. 2 bedroom, office, family room, 3 bathrooms. Finished basement with pool table. Attached 2 car garage. 5 km to U of A. $2,300/month. 780-483-6616. cathy@resumepeopleonline.com.

GRANDVIEW DRIVE. Executive 4 bedroom house. $3000/month. Text 780-995-2300.

OLIVER CONDO. 6 – 24 month lease. https://www.airbnb.ca/rooms/567200. Email: summerlease41or2@gmail.com. Messages: 780-760-7863 (9am – 5pm).

ACCOMMODATIONS FOR SALE

CENTRAL EDMONTON CONDO. Many upgrades. www.realtor.ca (MLS # E3343576). Email: summerlease41or2@gmail.com. Messages: 780-760-7863 (9am – 5pm).

ACCOMMODATIONS WANTED

U OF A FACULTY MEMBER. Seeks 3 bedroom house near campus for 2013 academic year (September - April). Please contact raft@ualberta.ca.

SERVICES

ESSAY RESEARCH AND WRITING ASSISTANCE. All levels and subjects. 1-888-345-8295. customessay@bellnet.ca.

laurels

The membership of the Council for Advancement and Support of Education (CASE) has elected O'Neil Outar, University of Alberta vice-president (advancement), to the council's board of trustees.

CASE is a professional association serving educational institutions and the advancement professionals who work on their behalf in alumni relations, communications, development, marketing and allied areas. Today, CASE's membership includes more than 3,600 colleges and universities, primary and secondary independent and international schools, and nonprofit organizations in 76 countries around the globe.

U of A community remembers a passionate alumnus, friend

News Staff

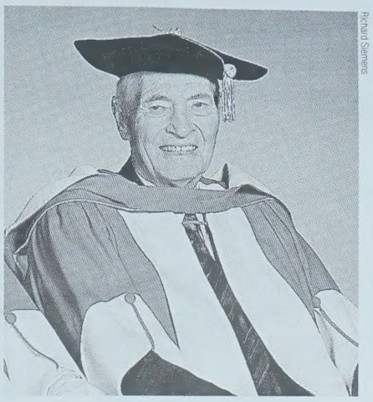
The University of Alberta community is mourning the loss of Harry Hole, one its most passionate supporters, philanthropists and alumni, who passed away July 3 at age 91.

A former executive with engineering firm Lockerbie and Hole, co-founded by his father Harry Sr., Hole was an ardent supporter of the U of A through generous philanthropy that will leave an enduring legacy on the entire institution, said President Indira Samarasekera.

"I am deeply saddened to hear of the passing of University of Alberta alumnus and friend, Harry Hole," said Samarasekera. "I cherished the opportunity to meet Harry and his wife Muriel—their enthusiasm for the University of Alberta was boundless and I always appreciated their warmth and generosity. On behalf of the University of Alberta, I extend my deepest sympathies to Harry's friends and family."

Born in Edmonton on Sept. 14, 1921, to Annie and Harry Sr., Hole attended the U of A—as did each of his eight brothers and sisters—and graduated with a bachelor of science degree in civil engineering in 1944.

That connection to the U of A only strengthened as Hole and his siblings entered the business and engineering world. In 2002, he and brothers Ralph, Robert and Jim gave $5 million to the Faculty of Engineering for the construction of the Natural Resources Engineering Facility and what would become the Hole School of Construction Engineering.



Richard Siemens

Harry Hole pictured during his honorary degree conferral in 2005.

That gift proved instrumental to getting the $65-million project off the ground, a development that has put the U of A at the forefront of construction engineering teaching and research globally.

"Harry's impact can now be seen in literally the entire construction sector of Alberta and beyond, and also in many educational institutions in many locations where graduates of the school have become key professors," said David Lynch, dean of engineering.

"The support of Harry and his family members has truly transformed the area of construction engineering, the entire Faculty of Engineering at the U of A and our Edmonton community."

Hole felt strongly about giving back to the community, including the U of A and other post-secondary schools in Edmonton.

In a 2006 interview upon his induction into the Alberta Order of Excellence, Hole said he was forever changed by the loss of friends in the Second World War.

"You were really looking through your career at some way of paying that back; it gave you a sense of responsibility," he said.

The motivation was there to "have a good life yourself and hopefully do something to improve the way for other people," he added.

In addition to supporting his namesake engineering school, Hole and his wife Muriel donated $200,000 to create the Canadian Military and Veterans' Rehabilitation Chair. They also provide ongoing support for the Muriel Hole Fund for Nursing Students and the Hole Family Faculty of Engineering Fund.

The U of A recognized Hole's accomplishments in 2001 when he received an Alumni Honour Award, and in 2005 when he and brother Jim were awarded honorary doctor of law degrees.

That legacy of giving and volunteerism continued outside the U of A; Hole was a strong community advocate and a member of numerous boards and organizations.

Hole was the founding chair of the Edmonton Police Foundation, which later created the Harry Hole Community Policing Award in his honour. He played a key role in the development of Edmonton Northlands, was a strong supporter of the Edmonton Community Foundation, and for 10 years was an honorary colonel of 15 (Edmonton) Battalion.

Hole's lifetime of accomplishments was honoured in 2006 when he was inducted into the Alberta Order of Excellence—the province's highest civilian honour—and again in 2012 when he received a Queen Elizabeth II Diamond Jubilee Medal.

University remembers Alberta energy pioneering alumnus

News Staff

The University of Alberta community is saddened at the passing of a business leader and pioneer who made one of the most significant discoveries in the history of Alberta's energy industry.

Arne Nielsen, a native Albertan and U of A alumnus, passed away July 2. He was 87.

Born in 1925 to Danish parents who settled in the farming village of Standard, about 100 kilometres east of Calgary, Nielsen would remain closely connected with Calgary throughout his life.

After serving in the Canadian Army during the Second World War, Nielsen attended the U of A, where he earned his Honours bachelor of science in geology in 1948 and his master of science in 1950.

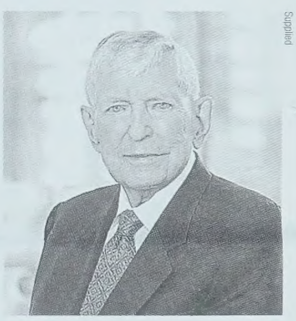
Soon after graduating, Nielsen was hired by Socony-Vacuum Exploration Ltd., which later became Mobil Oil Canada. In 1953, the young geologist led a team of oil explorers who discovered the Pembina oilfield near Drayton Valley, Alberta. Pembina turned out to be the largest oilfield in Canada and sparked a development boom in the area.

Nielsen worked his way up in the company, becoming chief geologist in 1959 before heading to the United States to serve in senior management roles that took him to New York, Denver and Austin. He came back to Calgary in 1966 as vice-president of exploration and became the first Canadian president of Mobil Oil Canada a year later. In 1972, he was part of Canada's first energy trade delegation to China.

After Mobil Oil acquired Canadian Superior Oil, Nielsen was appointed chair and CEO of the merged corporation in 1986. He also served twice as chair of the Canadian Petroleum Association. He was named an honorary life member of the Canadian Society of Petroleum Geologists in 1987 and was inducted into the Canadian Petroleum Hall of Fame in 1998.

Nielsen was also a generous benefactor to numerous charities, serving as an executive fundraiser for organizations including the United Way, the Council for Canadian Unity and the Cerebral Palsy Foundation.

Nielsen never forgot the value of his education, and his family has a strong connection to the U of A. He and his wife Evelyn had seven children (Allan, Brian, Dianne, Robin, Gerry, Paul and Kent) before her death in 1975. He eventually remarried and had two more children with wife Valerie: Aksel in 1982 and Harry in 1986. Five of the nine children have earned a total of nine degrees at the U of A, and Brian is a professor emeritus in the Faculty of Physical Education and Recreation.



Supplied

Arne Nielsen

In 2000, receiving an honorary doctor of science degree from his alma mater, Nielsen said, "I do not agree with those individuals who casually regard a university education as something only needed to get a job. Certainly in my case . . . the tremendous knowledge imparted by a university education was instrumental in the achievement which followed over a lifetime."

Nielsen published his memoir, *We Gambled Everything: The Life and Times of an Oilman,* through the U of A Press in November 2012. The book won the Petroleum History Society's Book of the Year Award and has since been a regular feature on the *Calgary Herald* bestseller list.

talks & events

Talks & Events listings do not accept submissions via fax, mail, email or phone. Please enter events you'd like to appear in folio and at www.news.ualberta.ca/events. A more comprehensive list of events is available online at www.events.ualberta.ca. Deadline: noon one week prior to publication. Entries will be edited for style and length.

UNTIL SEPT. 13

All Under Heaven: The Chinese World in Maps, Pictures, and Texts From the Collection of Floyd Sully. This exhibition presents works from the collection of Floyd Sully, a Canadian who has long been fascinated by beautiful representations of China. The Floyd Sully Collection is remarkable for its focus on maps and illustrated texts, which offer a diverse and telling set of perspectives on the Chinese world as it underwent a process of profound transformation. The collection will be on display at the Bruce Peel Special Collections Library (until Sept. 13) and FAB Gallery (until Aug. 17).

JULY 23

Student Engagement Strategies for the Large Classroom. Research shows that many students are not actively engaged in their large classes. Implications of this include reduced academic achievement, low attendance and high attrition rates. But there is hope! In this session we will review evidence-based strategies and innovative strategies from across our campus to encourage active learning in large classes. 10–11:30 a.m. 217/219 TELUS Centre. Register at utsregistration.ualberta.ca.

JULY 24

NASA Breakfast. The cost is $2 or free to NASA members who show their NASA card (bringing your NASA card with you takes you directly to the food line!). 6:30–9:30 a.m. Quad.

Instructional Strategies for Learning | TLS Concept and Course Design Series. This workshop will expose participants to different instructional strategies, foster an appreciation of contextual factors in instructional strategy choice and highlight the importance of aligning instructional activities with learning objectives. 9–10:30 a.m. 217/219 TELUS Centre. Register at utsregistration.ualberta.ca.

JULY 31

Breton Plots Field Day 2013. Come get a tour of the Breton plots near the village of Breton, 100 kilometres southwest of Edmonton, and take part in lively discussions and lectures on topics such as the nutrients in John Deere Green, the benefits of pulse crops in cropping rotations, faba beans, how to think like a plant to grow more yield, and much more. 11 a.m.–4 p.m. Breton Community Centre. Cost is $25. Lunch will be served at the Breton Community Centre. Register at tinyurl.com/kyepmc2.

Planes, Trains & Automobiles: High Level Bridge Streetcar. The Educated Series presents Edmonton's streetcars. Enjoy a guided tour of the Streetcar Museum and have an exclusive look at the restored streetcars of the Edmonton Radial Railway Society. Then board the streetcar for a breathtaking view and fascinating anecdotes of Edmonton's history by city archivist and U of A alumna Kathryn Ivan. Light snack provided. Children 10 and up are welcome. 7–9 p.m. Strathcona Streetcar Barn (103 Street and 84 Avenue). $5 per person.
For more information, email katy.yachimec@ualberta.ca.

AUG. 14

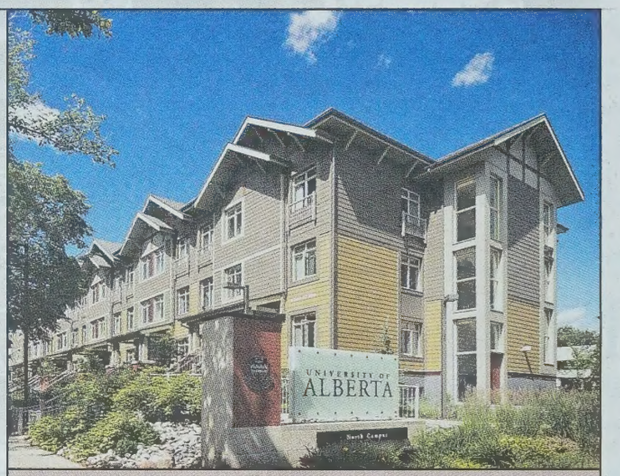
TECHKNOWLEDGY: Can Technology Make a Splash in Your Classroom? Please join us for a day of engaging and stimulating ideas involving a keynote presentation by Norm Friesen, Canada Research Chair in E-Learning Practices, interactive panel discussions, and of course some tasty technology bytes. Enjoy lunch while learning and sampling technology-enhanced projects and tools used in teaching across campus. 9 a.m.–1:45 p.m. 150 TELUS Centre. See all events at ctl.ualberta.ca.

AUG. 21 & 22

Third Annual Susan Dunn Memorial Golf Tournament & BBQ. To be held at River Ridge Golf Club. Texas-scramble style format, no golf experience necessary. Students: $60; PDFs/RAs/Techs: $65; Faculty/Guest: $70; BBQ only: $25. To register, contact sdmichae@ualberta.ca.

Sustainability is built right into the Centennial Centre for Interdisciplinary Science. Artist Scott Parsons used recycled glass and gravel from mining projects to give the terrazzo floor its distinctive texture. Labs use low-flow fume hoods and compressed-air vacuum pumps to save energy.

Adorning the north wall of the atrium between the Alberta School of Business and the Henry Marshall Tory Building is a living wall. Made up of 1,800 plants arranged in three H-shaped sections, the low-maintenance wall needs little watering and helps keep the air clean.



The East Campus Village Graduate Residence uses a recycling system that includes organic composting. Secure bicycle lock-up areas encourage riding to class, and utility meters for each suite let residents keep track of their own energy use.

PHOTOS RICHARD SIEMENS, MARKETING & COMMUNICATIONS

CAMPUS SUSTAINABILITY GOES ON TOUR

the *BackPage*

EVERY SECOND WEDNESDAY IN THE SUMMER, THE UNIVERSITY OF ALBERTA'S OFFICE OF SUSTAINABILITY LEADS A FREE WALKING TOUR AROUND THE NORTH CAMPUS. HERE ARE JUST A FEW HIGHLIGHTS OF AN ENLIGHTENING LOOK AT HOW THE U OF A INSTILS SUSTAINABILITY IN ALL ASPECTS OF CAMPUS LIFE—A COMMITMENT THAT GOES BEYOND OUR ENVIRONMENT TO INCLUDE SOCIAL AND ECONOMIC SYSTEMS THAT AFFECT EVERYONE WHO STUDIES, WORKS AND LIVES HERE.

Emma Shipalesky and fellow outreach assistant Lauren Hall (right) stop near the north campus cooling plant, part of the U of A's district energy system that supplies 30 per cent of the electricity used on campus. The system, the third largest on any campus in North America, covers an area equal to 300 Canadian football fields.

The prismatic windows of the Edmonton Clinic Health Academy maximize natural lighting, which reduces the building's energy use.